

I CLAIM:

1. A direction and speed control device for a motor vehicle, comprising:

5 a casing adapted to be mounted fixedly on the motor vehicle;

a sensing unit mounted in said casing and including a magnetic sensor; and

a magnet assembly including

10 a pivot axle mounted rotatably on said casing and having a magnet carrying portion extending into said casing, and a driven portion extending from said magnet carrying portion and disposed outwardly of said casing, and

15 first and second magnets mounted on said magnet carrying portion of said pivot axle and disposed on opposite sides of said magnetic sensor;

20 said driven portion of said pivot axle being operable externally of said casing for driving rotation of said pivot axle relative to said casing so as to move one of said first and second magnets toward said magnetic sensor and so as to move the other one of said first and second magnets away from said magnetic sensor;

25 said sensing unit being adapted to generate a control output for controlling movement of the motor vehicle in one of an advancing direction and a reversing direction and for controlling moving speed of the motor vehicle in said one of the advancing and reversing

directions in accordance with displacement of said first and second magnets relative to said magnetic sensor.

2. The direction and speed control device as claimed in Claim 1, further comprising a torsion spring for
5 providing a restoring force to said magnet assembly so as to restore said magnet assembly to an initial position where said magnetic sensor is disposed midway with respect to said first and second magnets.

3. The direction and speed control device as claimed
10 in Claim 2, wherein said torsion spring is made of an electrically conductive material and is adapted to connect electrically said sensing unit to an electrical power source.

4. The direction and speed control device as claimed
15 in Claim 2, wherein:

said pivot axle is rotatable relative to said casing about a pivot axis;

said casing being formed with an abutment member that is spaced apart from the pivot axis and that is formed
20 with a pair of opposing first abutment surfaces;

said magnet carrying portion of said pivot axle being formed with an actuating member that is disposed between the pivot axis and said abutment member and that is formed with a pair of opposing second abutment surfaces;

25 said torsion spring being sleeved on said magnet carrying portion of said pivot axle and having a pair of spring legs, each of which abuts against one of said

first abutment surfaces and one of said second abutment surfaces when said magnet assembly is disposed at the initial position.

5 5. The direction and speed control device as claimed in Claim 4, wherein said torsion spring is made of an electrically conductive material, one of said spring legs being connected electrically to said sensing unit, the other of said spring legs being adapted to be connected electrically to an electrical power source.

10 6. The direction and speed control device as claimed in Claim 1, wherein said magnet carrying portion of said pivot axle has a support seat mounted thereon, said support seat having a pair of magnet mounting portions, each of which has a respective one of said first and
15 second magnets mounted thereto.

7. The direction and speed control device as claimed in Claim 6, wherein each of said magnet mounting portions is a hollow portion that receives the respective one of said first and second magnets therein.